The Bulletins are published weekly throughout the school year (thirty issues) to aid teachers and students in keeping abreast of geography behind current news events.

GEOGRAPHIC SCHOOL BULLETINS

of

The National Geographic Society

WASHINGTON 6, D. C.

The National Geographic Society is a non-profit educational and scientific Society established for the increase of geographic knowledge and its popular diffusion.

VOLUME XXV — November 4, 1946 — NUMBER 5

PAGE

British Plan Bases in Kenya and Tanganyika 3

Siam Ends French Indochina Border Dispute 5

National Park Series: No. 5. Yosemite 7

Iceland Grants Air Base to United States 9

Spiky Pandanus Is Tropical Utility Tree 11

ANSEL ADAMS

YOSEMITE'S SUNNY SENTINEL DOME, OVERLOOKING SIERRA SNOWS, IS CROWNED BY A LONE PINE

This 8,117-foot peak rears more than 4,000 feet above the floor of Yosemite Valley and 900 feet above Glacier Point, at the rim of the valley. The road reaching these above-the-valley attractions of Yosemite National Park winds past the Mariposa Grove of giant Sequoias and goes through the Badger Pass winter sports area. Largest of the Mariposa trees is Grizzly Giant, 3,800 years old (page 7).

British Plan Bases in Kenya and Tanganyika

THE tropical seacoasts and high interior lands of Kenya and Tanganyika soon may bristle with military activity. It is reported that the British plan to establish air bases there to supplement or replace the empire's traditional strongholds in the eastern Mediterranean.

These giant dependencies, stretching inland from the Indian Ocean to the great lakes of central Africa, came to England in different ways. Kenya has been a British possession since the 19th-century partition of Africa by European powers. It includes the Crown Colony and the Protectorate, the latter a coastal strip leased from the Sultan of Zanzibar. Tanganyika, a former German colony, was mandated to Great Britain after World War I by the League of Nations.

Port of Mombasa Expanded During War

The chief ports of Kenya and Tanganyika—Mombasa and Dar es Salaam, respectively—may be groomed as replacements for present naval bases at Alexandria, Egypt, and Haifa, Palestine. The Indian Ocean ports guard sea routes around Africa and afford long-range control of entrances to the Red Sea and the Persian Gulf.

Mombasa, about 1,200 miles from the Red Sea outlet of the old Mediterranean life line, was rated so valuable an outpost during World War II that the British pushed large-scale expansion of its harbor facilities. Kilindini, the deep-water portion of Mombasa harbor, accommodates large vessels, and is considered the finest port on the east coast of Africa.

Together, Kenya and Tanganyika occupy well over half a million square miles—more than one-sixth the area of continental United States. It is all tropical country, with the Equator running through the heart of Kenya. But climate there is as much the result of altitude as of latitude.

Most of the colonizing British and Germans, avoiding the hot and enervating coastal lowlands, settled in the high interior plateau region. There, conditions approach those of southern California. Dry and rainy seasons alternate, and cool or cold nights follow warm days.

The sun-helmeted Englishman of fact and fiction has found good hunting in this part of Africa, particularly in Kenya. Big game includes elephants, zebras, giraffes, leopards, lions, and hippopotamuses. Crocodiles abound along the rivers, and the fleet wildebeest, or gnu, flashes through the bush.

Countries Contain Africa's Highest Peak, Largest Lake

Scenically, Great Britain's East Africa holdings are among the most spectacular of the continent. Africa's highest mountain, Kilimanjaro, rises in Tanganyika almost on the Kenya border. It pierces the clouds at nearly 20,000 feet. Mount Kenya, located in Kenya Colony practically on the Equator, reaches above 17,000 feet.

The Great Rift Valley runs through both countries. It is a gigantic trench, or fault, in the earth's crust. Dormant volcanoes, fantastic rock shapes, and steam jets recall the ancient convulsion which caused it. Lake Victoria, divided among Kenya, Tanganyika, and Uganda, is three times

UMI

ERNEST B. SCHOEDSACK

SIAM HAS MANY VENICES: TO GET ON THE OTHER SIDE OF THE STREET VILLAGERS TAKE BOATS

Built along both banks of a river, this Siamese town has a ready-made main street. Raised on piles, the balconied teakwood houses are sheltered from tropical downpours by overhanging eaves and tile roofs. The ever-present temple spire dominates the town (page 5).

Siam Ends French Indochina Border Dispute

THE cabinet of Siam (Thailand) has ended a five-year dispute with French Indochina by agreeing to return border areas obtained from the Vichy French government during the war. The territories in question included an estimated 20,000 square miles along the Mekong and in northwest Cambodia.

Siam is the only independent country in southeast Asia. It is a constitutional monarchy with a parliamentary form of government. Its new 18-year-old king, selected after the sudden death of his brother last spring, heads a tropical Far-East land best known abroad for such distinctive touches as gilded temples, dancing girls (illustration, page 6), emerald buddhas, and sacred white elephants.

Umbrella Is Guard Against Sun

Some of the Siamese flags still carry the elephant emblem. Flowery titles of the king include that of Lord of the White Elephants, Half Brother to the Sun, Brother to the Moon, Supreme Arbiter of the Ebb and Flow of the Tide, and Keeper of the 24 Golden Umbrellas.

The umbrella, used more against sun than rain in the hot, equatorial countries, is an ancient Persian symbol of power and rank. In ceremonial parades and functions of Siam, it takes the form of a many-tiered creation, graduated in size and ending in the spire typical of ornate Siamese architecture.

Behind a picturesque and symbolic front, however, modern Siam has undergone many changes. Before the war, its capital, Bangkok, had become a metropolis of about 700,000 inhabitants, with automobiles, air-conditioned buildings, hotels, shops, and hospitals.

While the people of the rural districts, in the jungles and hills, still carry on in the simple, primitive way of their ancestors (illustration, page 2), modern improvements are notable in and near urban centers in new public buildings, roads, bridges, and harbor works. New housing projects have been started and educational facilities expanded.

Bloodless Revolution in 1932 Ended Absolute Monarchy

Supporting economic advances are Siam's natural resources of tin, rubber, and teak. The chief agricultural product is rice. Siam is one of the world's largest rice producers and exporters.

More than three times the size of New England, and with a total population of about 16,000,000, Siam is a buffer land bordered by British-dominated Burma and Malaya and French Indochina. It was an absolute monarchy until 1932, the year of Siam's Magna Charta. At that time a bloodless revolution established a constitutional government and stripped the nobility of much of its former holdings.

The spread of Japanese power in southeast Asia brought Siam under Nipponese influence. Taking advantage of the old border feud, Japan first supported, then mediated, a war between Siam and Vichy-administered French Indochina. By this mediation, the Siamese puppet government in 1941 regained long-claimed territories along the Mekong—the frontier river separating the two countries.

as big as the State of New Hampshire. It is the long-sought source of the Nile River.

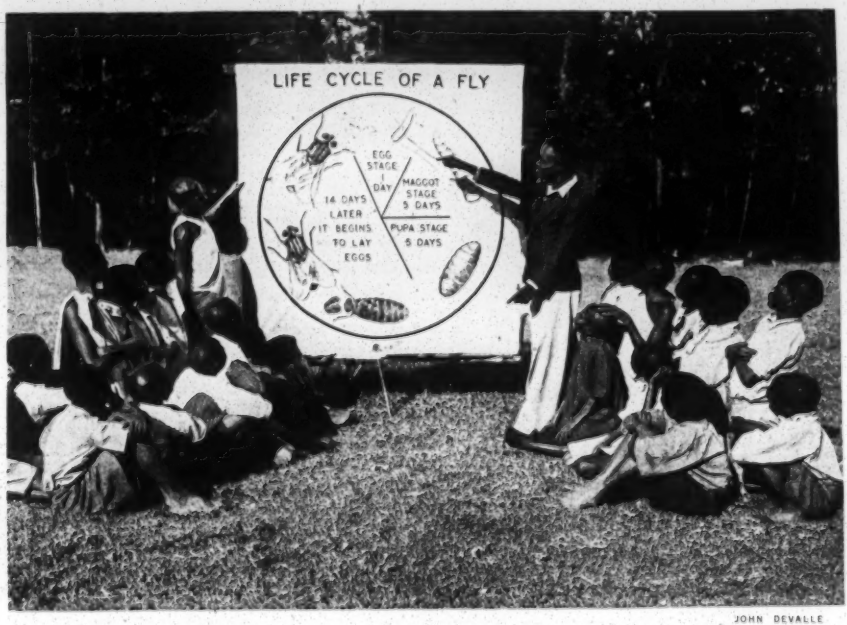
The combined population of Kenya and Tanganyika is estimated at about 9,000,000—more than that of Ohio and West Virginia. Invasion, commerce, and the rich slave traffic added strains of Arabic, Hamitic, and Asiatic blood to the mass of native, black-skinned tribes (illustration, below).

The fused race which developed in the coastal melting pot is called Swahili. Individuals vary from black to nearly white. They are more advanced than interior tribes. Their speech, long the trade tongue of the area, is now an official language of British East Africa.

Less than 50,000 Europeans live in the two dependencies. Kenya holds the largest proportion of whites in East Africa. Its European landholding group follows traditional ways of plantation colonialism.

NOTE: Kenya and Tanganyika may be located on the National Geographic Society's Map of Africa. A price list of maps may be obtained from the Society's headquarters, Washington 6, D. C.

For additional information, see "The British Commonwealth of Nations," in the *National Geographic Magazine* for April, 1943*; "When a Drought Blights Africa," April, 1929; and "Through the Deserts and Jungles of Africa by Motor," June, 1926. (*Issues marked with an asterisk are included in a special list of Magazines available to teachers in packets of ten for $1.00.*)



JOHN DEVALLE

KENYA CHILDREN LEARN HOW THE FLY PROGRESSES FROM EGG TO EGG-LAYING IN 14 DAYS

Such outdoor schools, often using native teachers, are spreading the use of English as well as teaching the rudiments of modern science. British policy of making paramount "the interests of the African natives" has created reserves free of outside exploitation. Much of the inland plateau of this east African crown colony has climate and soil suitable for European colonization.

ENTERED AS SECOND-CLASS MATTER APRIL 27, 1943, POST OFFICE, WASHINGTON, D. C., UNDER ACT OF MARCH 3, 1879.
COPYRIGHT, 1946, BY THE NATIONAL GEOGRAPHIC SOCIETY. INTERNATIONAL COPYRIGHT SECURED. ALL RIGHTS RESERVED.

Yosemite: Hoarder of Wonders

VISITORS to Yosemite Valley stare with awe as they view its leaping waterfalls, staggering granite walls, and towering domes. The immensity and beauty of the scene so often pictured in travel folders and postcards bursts into view on the El Portal Road as it passes between Cathedral Rocks and El Capitan.

This valley, seven miles long, one mile wide, and nearly a mile deep, fills only a small fraction of Rhode Island-sized Yosemite National Park, yet it hoards much more than its share of the world's natural wonders. Situated on the western slopes of California's snow-capped Sierras, about 200 miles east of San Francisco, Yosemite is open all year.

Falls Are Best in May and June

Probably no place in the world has a waterfall display to equal Yosemite's. Ribbon Fall, highest in the United States, is a slender thread of mist, dropping 1,612 feet. Upper Yosemite Fall leaps clear of the valley wall for 1,430 feet, a height equal approximately to nine Niagaras. Lower Yosemite Fall, immediately below, drops another 320 feet, or nearly two Niagaras more. Bridalveil, 620 feet, and Illilouette, 370 feet, also tumble over the side walls of the valley.

The Merced River thunders over two brinks near the head of the valley—Vernal Fall, 317 feet, and Nevada Fall, 594 feet. All falls are at their best in May and June while winter snows are melting. They dwindle in July, and sometimes the slighter side-wall falls dry up in August.

After viewing the valley from the highways along the floor visitors usually drive to Glacier Point (illustration, page 8) which overlooks the canyon and provides a magnificent view of the high Sierras to the east. Spread before the eye is a breath-taking panorama of waterfalls, domes, and rugged mountains. Man adds to nature's spectacle with the nightly firefall—burning logs pushed 900 feet over the rim at Glacier Point.

Snow Closes East Entrance Except in Summer

Sentinel Dome (illustration, cover) and Half Dome, highest of Yosemite's towering cupolalike formations, dominate many views. Several hiking and riding trails begin near Half Dome and lead into the vast granite sea of the Sierra Nevadas. Seven hundred miles of trails wind among innumerable lakes, mountain meadows wild with flowers, live glaciers, and foaming streams. Seven-day hikes conducted by the park service make a circuit of five high Sierra camps.

Farthest of the camps from Yosemite Valley is Tuolumne Meadows, near Tioga Pass, the eastern automobile entrance to the park. Tioga Pass is just under 10,000 feet and the road is often snowbound for ten months of the year. Near-by Mt. Dana, at the crest of the Sierras, forms the park's 13,000-foot eastern boundary.

For decades conflicting theories were advanced to account for Yosemite Valley's unusual formation. Generally accepted now is the belief that the Merced River, tumbling from the Sierra heights, cut a V-shaped trench.

The Siamese also occupied territory formerly held by the British inside Malaya and Burma. The new government renounced this land in 1945 after repudiation of the war declarations against Great Britain and the United States.

Meantime, a strong underground movement against the Japanese had grown up. Postwar reports tell of dramatic activities by American and Siamese agents who provided direct information on Japanese movements. A planned open revolt by the Siamese was made unnecessary by the war's sudden end.

NOTE: Siam appears on the Society's Map of Southeast Asia.

For further information, see "Ancient Temples and Modern Guns in Thailand" (10 photographs), in the *National Geographic Magazine* for November, 1941*; "'Land of the Free' in Asia," May, 1934*; and "The Warfare of the Jungle Folk," February, 1928.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, November 5, 1945, "To Outsiders, Thailand Is Once More Siam."

ERNEST B. SCHOEDSACK

ENTERTAINING A BANGKOK CROWD, A SIAMESE GIRL DOES A DRAMATIC DANCE

Lavishly dressed and made up, she is the principal performer in a sidewalk play. Every movement and glance is dictated by tradition. To a stranger her dance is an incomprehensible series of jerks and hops, done to the accompaniment of unmelodious music.

Iceland Grants Air Base to United States

THE United States air base at Keflavik, Iceland, which American civilian personnel will continue to use in accordance with an agreement ratified by the Icelandic parliament, forms an important station on the great circle routes between eastern United States and far-northern Europe.

Not far from the Arctic Circle, 320 miles off the southeast coast of Greenland, Keflavik lies about halfway between New York City and Moscow (Moskva). It is 2,600 miles from the chief United States port and 2,150 miles from the Soviet capital.

Base Is Near Iceland Capital

While American troops were stationed in Iceland during World War II, bases on the island were valuable as steppingstones on the air ferry and transport route to Great Britain. They also were used for radar and weather forecasting equipment.

The native settlement of Keflavik long has been a fishing village. It is situated on the southwest peninsula of the island, about 20 miles across the bay from the capital, Reykjavik. On the 30-mile coastal road to Reykjavik many a GI on leave caught a ride in army truck or jeep.

A century before the war, one of Iceland's infrequent foreign visitors described Keflavik as a hamlet of a few wooden houses and huts with an unsafe harbor. Later its population included several hundred people living in homes scattered around a spired church. At a trading station fishermen sold their fish and bought food, clothing, and fishing gear.

In addition to its own fishing fleet, the Keflavik port became the resort of boats from various parts of Iceland during the codfishing season, which is at its height from the first of the year through April.

In the past decade, most of the houses of Keflavik have been built of concrete instead of wood as used in earlier structures (illustration, page 10). Wooden materials had to be shipped in, since the surrounding country is barren lava rock with little vegetation beyond a fringe of grazing land around the village.

Land of Fire and Ice

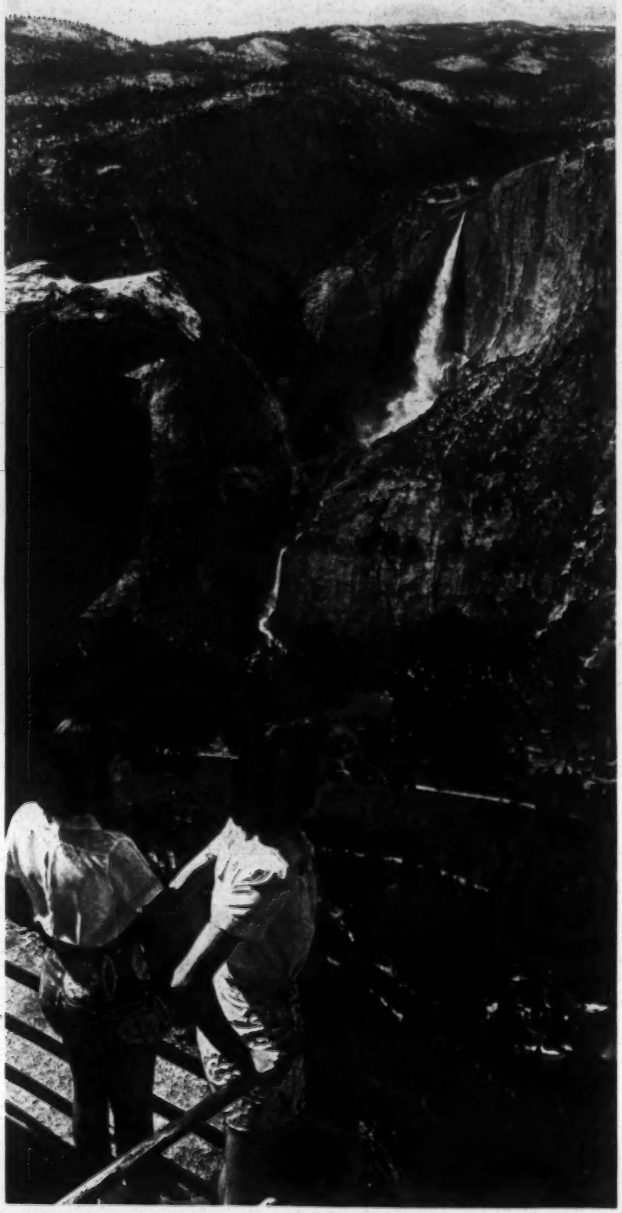
The wooden houses have roofs of corrugated iron, so that the material of curved walls and roofs of the Nissen huts, housing the personnel of the United States air base west of town, was not out of keeping with the surroundings. Permanent residents of Keflavik are now estimated at 1,500.

The area east and north of the base is noted for its geographic and climatic contrast. Though Iceland grazes the Arctic Circle, it is warmed by the Gulf Stream. Not only the ice for which the island is named, but also the fire of its volcanoes make large areas uninhabitable.

Lava fields and icecap adjoin one another. Geysers spout and glaciers crawl. The Great Geyser, near Mt. Hekla, gave its name to all the geysers in the world. Volcanic eruptions and earthquakes made life perilous and death sudden. In 1783 one-fifth of the islanders died during an eruption.

Hardy Norwegian stock overcame all the shortcomings of the island as a place to live, and today there are more than 120,000 Icelanders. They

During the Ice Age, ice filled the valley, pushing through with such pressure and force that it deepened and widened the trench into a U shape. A lake left after the ice melted gradually filled with silt brought down by the Merced, accounting for the parklike valley floor of today. The "hanging valleys" of the waterfalls on each side are the result of the small tributaries cutting more slowly than the main stream.



ANSEL ADAMS

GRIPPING THE RAIL, SPEECHLESS GIRLS ON GLACIER POINT LOOK DOWN ON YOSEMITE VALLEY AND ACROSS AT UPPER AND LOWER FALLS

Park visitors choose among several hotels, lodges, cabin developments, and auto camps. Besides Yosemite Valley, roofed accommodations are located at Glacier Point, Tuolumne Meadows, Wawona, and Mariposa Grove (the latter two are near the south entrance to the park).

NOTE: Yosemite National Park is shown on the Society's Map of the Southwestern United States.

See also "Seeing Our Spanish Southwest," in the *National Geographic Magazine* for June, 1940*; "Crater Lake and Yosemite," August, 1938*; "Western National Parks Invite America Out of Doors," July, 1934; "Nature's Scenic Marvels of the West," July, 1933*.

Spiky Pandanus Is Tropical Utility Tree

THE "shopping" bag of pandanus leaves which was presented to President Truman by the natives of Bikini is an example of one of the many uses of a strange tree that grows in tropical lands of the Pacific and Indian ocean areas.

Like the better-known coconut palm, the pandanus supplies food, clothing, and shelter in a wide range of forms. From Hawaii and the Marquesas westward through Malaya to Madagascar, the trees thrive on island and continental shores where heat and moisture are plentiful.

Tastes Like Pineapple

There are many varieties of pandanus. They range from low shrubs forming thickets on atoll beaches to forest trees 60 feet tall and two feet in trunk diameter. American soldiers found them on remote, uninhabited Pacific islets, to which the fruit and its seed had been carried by warm currents across vast expanses of ocean. Months of soaking in salt water has no effect on the vitality of the seed.

Pandanus trees are as varied in shape as they are in height. Branches may sprawl angularly near the ground or push their spiky gray-green leaf clusters skyward from high on the trunk. The long, narrow leaves sprout from the tips of branches in fanlike tufts. They grow in a perfect spiral arrangement which has given the tree the popular name of screw pine. The fruits of some species grow to football size and larger. They turn scarlet when ripe, and resemble the pineapple in flavor and sectional construction.

Some of the large trees are strangely supported by stiltlike aerial roots. Early in growth, the trunk sends shoots obliquely downward. Gradually these reach the soil and take root. The main trunk within the ring of shoots slowly wastes away, and the tree stands on its aerial props, now earthbound.

On Pacific islands, sturdy pandanus trunks are used as rafters, joists, and posts in rustic huts. Natives split the strong pliable leaves and weave them into floor mats and beds. Pandanus leaves also serve as thatch for roofs (illustration, page 12).

Versatile Pandanus Furnishes Twine, Sails, and Food

Clamoring for souvenirs to take or send home, the Americans bought such quantities of pandanus-leaf hats, mats, and bags that the weaving of these products grew into big business for native craftsmen on Kwajalein. Pandanus-leaf sails moved the deep-hulled native canoes until American canvas arrived to outmode them.

The sweet juices from the pandanus fruit rind and seeds are both staples of native diet. The fruit is baked, then pressed and scraped to yield a thick yellow sirup. Dried in the sun, this sirup is pressed into leathery 20-pound rolls for sea-voyage and famine-season use.

On Guam and Saipan, "pandanus cabbage"—tender young leaf shoots—is eaten both raw and cooked. Stout pandanus twine, made from tough leaf fibers, is used to lash together the walls of houses and to weave bags for corn and rice.

rarely emigrate. Their parliament, the Althing, is the oldest legislative body in existence. It was established in A.D. 930, and has presided over more than 1,000 years of peace.

Among the earliest literature produced after Europe's Dark Ages were the Icelandic Eddas, epic poems created from hero tales told during the long nights of Iceland's winters.

NOTE: Iceland is shown on the Society's Map of North America.

For further information, see "American Soldier in Reykjavik," in the *National Geographic Magazine* for November, 1945; "Ancient Iceland, New Pawn of War," July, 1941*; and "A Walking Tour Across Iceland," April, 1928.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, November 27, 1944, "Iceland, Again a Republic, Always a Nation of Peace and Toil;" and "Where Are the Yanks? 12. Iceland," May 15, 1944.

HANS PETERSEN

ICELAND'S PONIES HELP TRANSPORT THE RAILROADLESS ISLAND'S GOODS

These doughty animals carry both passengers and freight. Less than 3,000 miles of roads and pony trails wind among the Arctic country's fjords, lava fields, and icecaps. Old-fashioned wooden houses such as these are gradually being replaced by stone and concrete dwellings.

OCEAN DEEPS ARE CLOSE TO SHORE

The ocean does not get deeper and deeper the farther it extends from shore. Its deep spots usually are found along the edges of continental shelves. They are situated near earthquake belts on land, or follow these belts where they extend into the sea.

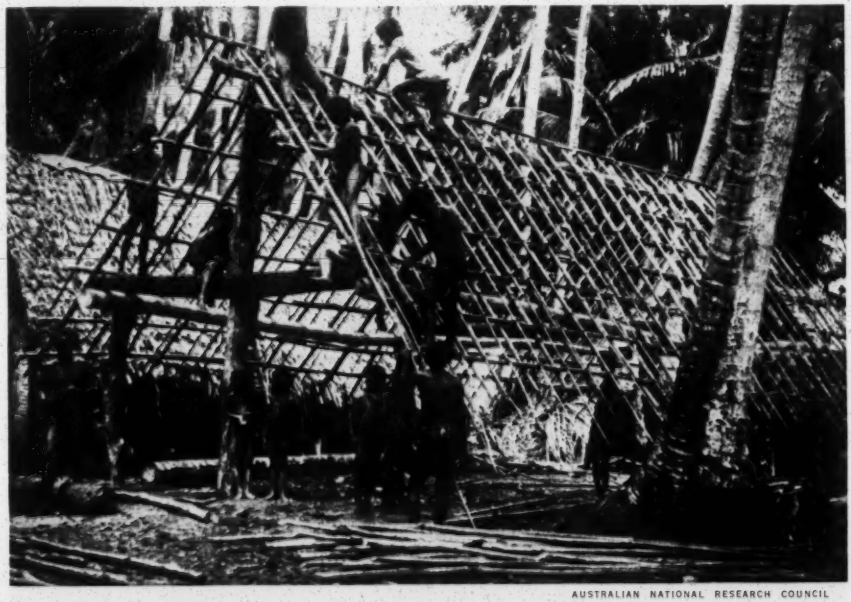
Volcanic islands or mainland mountains often rise near ocean deeps, causing great local variations in the earth's crust. Milwaukee Depth falls 30,246 feet below the surface, while on near-by Hispaniola, the rocky island on which Haiti and the Dominican Republic are situated, mountains rise to 8,790 feet.

The Mid-Atlantic Rise, one of the longest mountain ranges in the world, is completely submerged except for the Azores and Ascension Island.

The natives of the Caroline Islands use short lengths of the pandanus trunk for sleeping pillows. On Okinawa, crossroads of Pacific typhoons, pandanus thickets serve effectively as windbreaks for fields of wheat and oats.

In Hawaii, where the pandanus is commonly known as lauhala and called hala "for short," it goes into baskets, mats, and fans for the tourist trade. In rugs, screens, and flower containers it adorns every type of dwelling from the fast-disappearing grass hut to the modernistic concrete house. From the hard fibrous wood which takes a high polish, are fashioned huge bowls called calabashes.

NOTE: Islands where the pandanus grows may be located on the Society's Map of the Pacific Ocean and Map of the Indian Ocean.



AUSTRALIAN NATIONAL RESEARCH COUNCIL

THE PANDANUS LENDS A LEAF, NEIGHBORS LEND A HAND, TO ROOF A HOUSE

Almost as quickly as you can say "Quonset hut," the natives of Ontong Java, off the northeast fringes of the Solomons, can construct a house. Two days is a good estimate. As all the materials are at hand, housing problems in this far Pacific island group are easily solved. Woven coconut-leaf mats are tied with coconut fibers to a timber frame to form the walls. Slender sticks crisscross to make the roof foundation. Over them are laid sticks four to five feet long on which are strung slim strips of pandanus leaves. These rows of leaf fringe overlap and give a shaggy appearance to the practically waterproof roof.

The following order may be used (or copied) for requesting the BULLETINS: School Service Department, National Geographic Society, Washington 6, D. C.

Kindly send.....copies of the GEOGRAPHIC SCHOOL BULLETINS weekly for one school year for classroom use to

Name .....

Address for sending BULLETINS .....

City ..... State .....

I enclose, for each subscription, 25 cents (in United States or its possessions; in Canada and other foreign countries, 50 cents in U. S. funds): Total amount.....